

Infrared Astronomy in the Post-ISO Era*

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The recent successes of ISO in space and of the Keck Observatory on the ground, together with the continued rapid progress in the optimization of large-format infrared detector arrays for astronomical applications, demonstrate once again that infrared astronomy will be an exciting and fruitful research area in the coming years. This talk will describe the scientific rationale and technical realization for two upcoming NASA programs in this area - WIRE and SIRTf. WIRE, the Wide Field Infrared Explorer, is a Small Explorer satellite which will exploit the power of infrared detector arrays to study infrared-luminous galaxies out to $z \sim 1$. SIRTf, the Space Infrared Telescope Facility, is a Great Observatory companion to the Hubble Space Telescope. SIRTf's imagers and spectrographs, again utilizing infrared array technology, will enable a wide range of scientific investigations. In addition, SIRTf's innovative system architecture - built around a heliocentric orbit and a telescope which is launched warm - makes SIRTf a vital technical precursor for the next generation of infrared telescopes in space. It is important to bear in mind, however, that even missions as unique and powerful as WIRE and SIRTf will rely on synergistic investigations in other spectral bands for full realization of their scientific return, just as infrared observations will be central to the exploration of phenomena identified and studied at other wavelengths. We will also summarize the status of the NICMOS instrument for 1-2.5 μm investigations to be installed on HST in February, 1997, and of the international Gemini project which is constructing 11-meter diameter infrared-optimized telescopes at Mauna Kea and in Chile.

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